Convention Center Fiber Optic Project #2368

Project Owner:
Brown County
305 E Walnut St
Green Bay, WI 54301

Project Engineer:
Multimedia Communications & Engineering, Inc.
Contact: Dan Becker
PO Box 11064
Green Bay, WI 54307
Ph. 920-301-7900 ext. 1002
Email: dbecker@mcewi.com

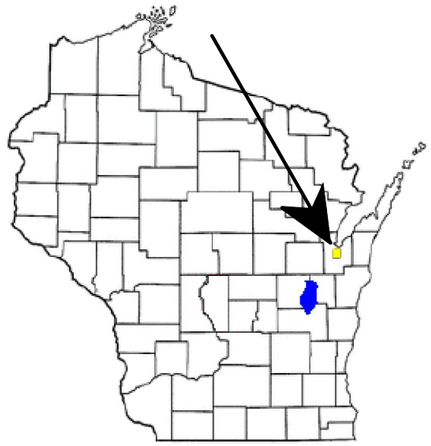
Permits Required:
City of Green Bay Obstruction/Excavation
Green Bay Erosion Control Certificate

Table of Contents:

Dates:
Preliminary Plan Completion:
02-03-2020
Final Plan Completion (post permit review): TBD
Revisions:
None

Project Location

City of Green Bay , WI



COORDINATE SYSTEM: Brown County, WI

Legend

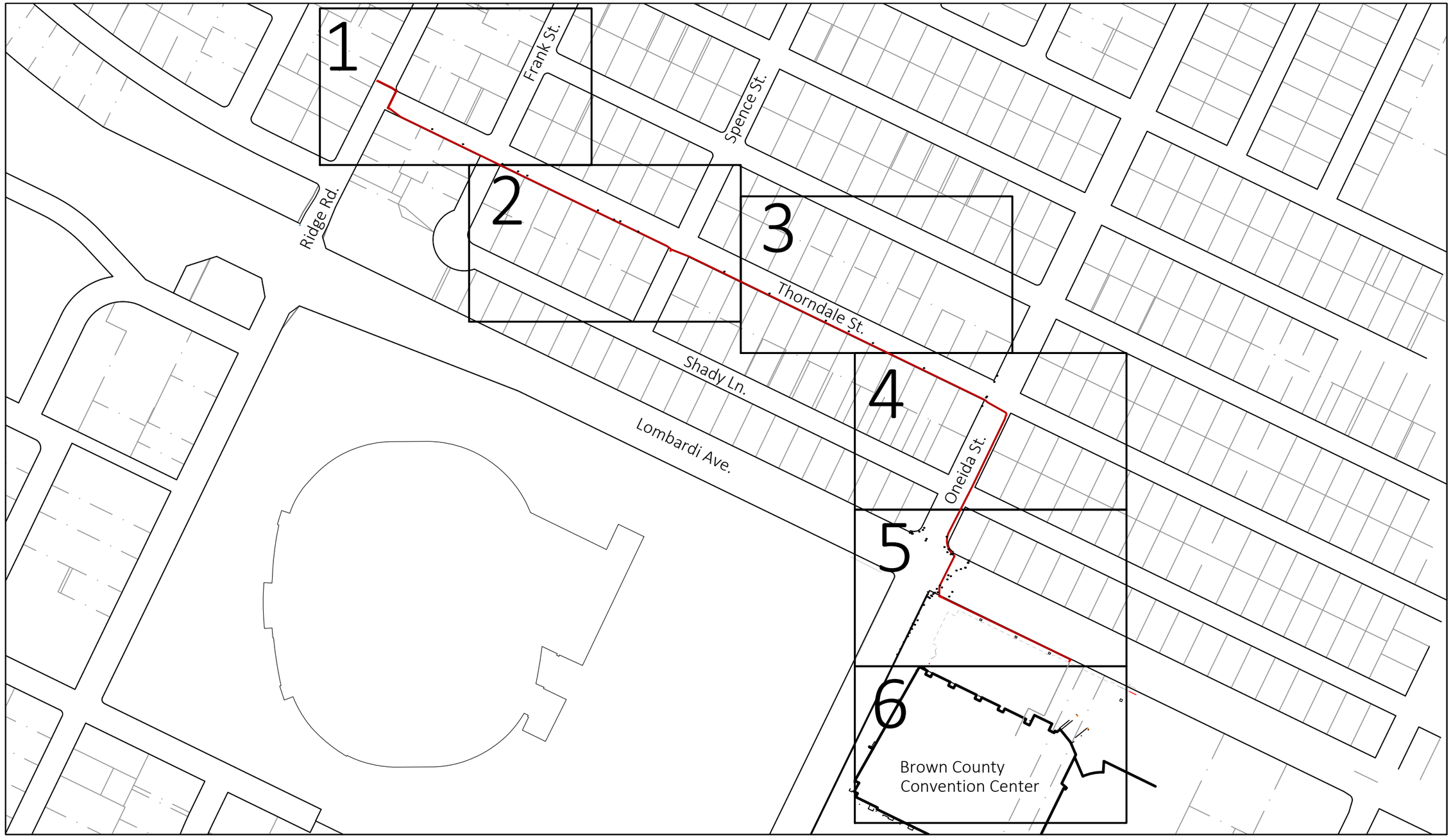
- = Underground Fiber
- = Handhole
- = Locate Station
- = Telco
- = Cable TV
- = Electric
- = Gas
- = Water
- = Sanitary Sewer
- = Storm Sewer
- = Private Fiber Optic
- = Utility Pole
- = Fiber Ped
- = Traffic Control Box
- = Telco Ped
- = Cable TV Ped
- = Electric Ped
- = Electric Transformer
- = Catch Basin / Inlet
- = Round Catch Basin / Inlet
- = Manhole
- = Handhole
- = Utility Pole
- = Anchor
- = Aerial Fiber
- = Overhead Guy
- = Expansion Loop
- = Splice
- = Power Pole
- = Standoff
- = Culvert
- = Tree
- = Street Light
- = Water Valve
- = Fire Hydrant

Typical Install Depth is 36"

CALL DIGGERS HOTLINE 3 DAYS BEFORE DIGGING:
AT 811 OR (800) 242-8511
EMERGENCY ONLY: (262) 432-7910

ALL UNDERGROUND UTILITY LOCATIONS SHOWN ARE APPROXIMATE. UTILITY INFORMATION WAS PROVIDED IN RESPONSE TO PLANNING LOCATE REQUESTS. CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE LOCATION OF MUNICIPAL AND PRIVATE UTILITIES; COMPLETE REPAIR OF ANY AND ALL DAMAGES & RESTORATION INCURRED SHALL BE AT THE EXPENSE OF THE CONTRACTOR. FACILITY PLACEMENT SUBJECT TO CHANGE UPON FIELD LOCATE COMPLETION.

RIGHTS-OF-WAY ARE DEPICTED BASED ON FIELD OBSERVATIONS AND THE LATEST STATE AND COUNTY RECORDS AVAILABLE.



Fiber Optic Specialists	Multimedia Communications & Engineering, Inc. PO Box 11064 Green Bay, WI 54307 P: 920.393.3492 I 877.870.6968	0 50' 100' N *Scale: 1" = 50' ANSI B/Tabloid*	BCCAN - 2020 Convention Center Fiber Project #2368	Sheet Group: Route Overview	Sheet ID: OV

EXCAVATIONS

Excavations shall not remain open in excess of 24 hours unless specific permission is obtained from the City Engineer.

In all streets, alleys, sidewalks or other public ways, whether improved or unimproved, all excavated material shall be removed and the trench shall be backfilled with flow-able filled slurry mix.

At no time can spoils or other debris be stored or piled in the street gutter.

Excavation stock piling must remain within the public right of way and cannot be placed on or impede any roadways, driveways, sidewalks, or fire hydrants. Any areas that have minimal public right of way available must stock pile the excavated material on a truck bed or trailer. No stock piling of excavated material will be allowed on private property.

Excavations are to remain outside of wetland areas. All excavations must have proper erosion control practices to prevent stock piled materials from entering wetland areas.

Excavations are to remain 75' from the high-water mark of and waterway. Any excavations must have proper erosion control practices to prevent stock piled materials from entering waterways.

EROSION CONTROL PLAN

Any prolonged open excavations or standing debris piles will require erosion control practices such as sandbagging, placing hay bales, or silt fencing around the area.

The Contractor must employ the following good housekeeping practices that will prevent the ingress of any excavated materials into the Municipal storm water system:

1) Cover Storm Sewer Inlet with DOT Filter Fabric (DOT Type FF, not felt or silt fence material) near areas where excavation and directional drilling operations occur. DOT Type C Inlet protection standards apply (2x4 across back of inlet with DOT Filter Fabric over inlet held in place by inlet cover). Type D Inlet Protection including waddles (fiber filled filter socks) around drains to prevent debris from entering the storm sewer system are required at any low area inlets.
2) Place Silt Fence Barrier around excavation per below typical specification Diagram. Silt Fence to be inspected prior to excavation.
3) Place Sand Bag Barrier around Spoils to prevent runoff ingress into Storm Water Management System.
4) Protect graded restoration area using fibrous matting to prevent erosion into Storm Water Management System
5) Place temporary soil stabilization materials to prevent erosion into Storm Water Management System.

All erosion control measures shall be inspected on a weekly basis and/or after ½" or more of rainfall to ensure the effectiveness of the erosion control measures.

DEWATERING

Dewatering of pits, trenches, hanholes, or manholes must be done with the use of a sediment bag, a straw bale dewatering basin, or approved equivalent. All dewatering procedures must meet or exceed state standards. All Vacuum Excavation spoils are to be transported and disposed of offsite at an approved dumping station. Dewatering is expected to be negligible given the depth of installation and the nature of the directional boring operations for this project.

FRAC-OUT CONTINGENCY PLAN

Boring activities and bore path are to be continually monitored to observe potential frac-outs. Erosion control materials are to be accessible and onsite should a frac-out occur. Acceptable materials include silt fence, straw bales, and sand bags. As soon as a frac-out is discovered, erosion control must immediately be implemented around the frac-out material (bentonite-water mixture). A vacuum excavation machine is to be accessible on short notice to clean any frac-out material should it occur.

RESTORATION

The Contractor may be allowed to mechanically core through hard surface streets to locate existing utilities provided that the restoration of the core be performed per the specific requirements of the Municipality or Agency having jurisdiction. Core holes must be backfilled with a slurry mixture as specified by the DOT per permitting requirements. The original Concrete or Asphalt core can then be replaced using Plug and Epoxy method.

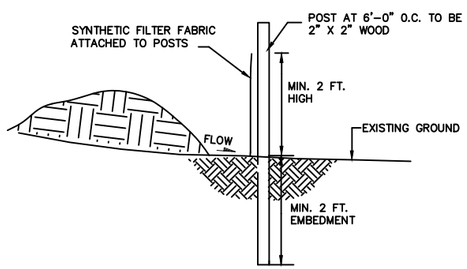
Potholing is not allowed in ADA compliant or non-compliant pedestrian ramps. Any hard surface excavations within any pedestrian ramp panels will result in the Contractor's replacement of the entire ADA Compliant panel, along with adjacent panels at the Contractor's expense.

At no time can the Contractor perform any excavation that undermines the adjacent in-tact surfaces, thereby making vertical mechanical compaction impossible and creating future potential for subsurface failure. This scenario will result in the replacement of the effected hard-surface to the permitting authority's specifications.

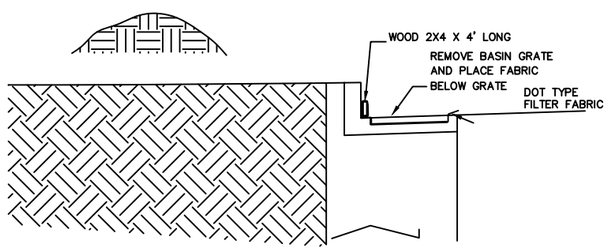
All disturbed lawns, vegetation, flowers, shrubbery, trees, landscaping, etc. must be replaced or restored to its previous condition or better. Lawn repair will require a minimum of 4" of black dirt and municipal approved grass blends are to be applied.

All areas of restoration using Black Dirt and Seed must be protected with biodegradable net-free fibrous matting. Placement of loose straw or other materials that can be easily blown away or otherwise eroded/removed from the restored area will not be permitted. Fibrous matting materials will must be included in the Contractor Cut Sheets and approved by the Owner for use prior to placement.

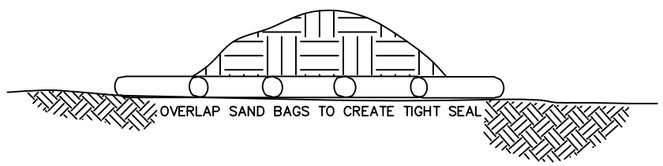
Silt Fence Erosion Control:



Storm Inlet / Catch Basin Erosion Control:



Sand Bag Barrier Erosion Control:



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Fiber Project #2368

Sheet Group: Erosion Control

Sheet ID: EC

Placement Notes:

T2.01 Duct Placement Guidelines

The Contractor is responsible to provide all duct, handholes, locate posts, locate stations, locate wire, and pull rope as part of their installation responsibilities. The HDPE Duct part number referenced in Section T6 - Contractor Provided Materials, references a duct that includes a mule tape for cable installation. The Contractor will be required to provide all mule tape necessary for cable installations whether it be included with the duct at the time of purchase or provided and installed separately.

All ducts will be placed on the routes identified in the attached CAD Plans. All ducts must maintain a minimum horizontal clearance zone of 18" when paralleling other underground utilities with the exception of City Water, Sewer, and Storm where a 6' horizontal clearance and 24" vertical clearance is required. The routes on the attached CAD plans have taken this additional clearance into consideration.

All underground ducts must be placed a minimum of 36" below finished grade wherever possible. Instances where the duct must be placed at a shallower or drastically deeper depth must be brought to the attention of the Project Manager prior to installation.

The Owner's Project Manager will be on site to coordinate and mark the duct placement route and handhole locations once all locates have cleared. Routes will be marked with the use of paint and flags. The Contractor must not place duct along the route without first reviewing the individual areas with the Project Manager. This measure is designed to avoid instances where the new duct may encroach the restricted clearance zones of other utilities or extend outside the Right of Way.

All exposed duct ends must be covered with a temporary plug or adequately sealed with duct tape to prevent the ingress of dirt, water, and debris prior to the installation of the cable, locate wire, and mule tape.

All empty ducts (if any) must be sealed using properly sized duct plugs.

Where ducts are coupled together, the contractor must use an aluminum threaded coupler.

T2.02 Handhole Placement Guidelines

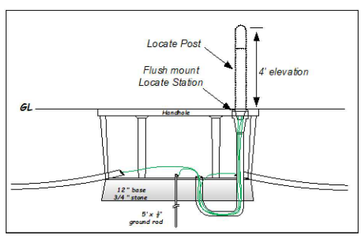
The Contractor will be required to place new Large 36"x60"x36" pre-cast handholes, Medium 30"x48"x36" pre-cast handholes, or Small 24"x36"x36" pre-cast handholes along the route as shown on each project's CAD Plans. Large Handholes must be Quazite PG3660BB36 base with PG3660HH21 Extra Heavy Duty (ANSI Tier 22) 2-piece lid marked "Fiber Optics". Medium Handholes must be Quazite PG3048BB36 base with PG3048HH21 Extra Heavy Duty (ANSI Tier 22) 2-piece lid marked "Fiber Optics". Small Handholes must be Quazite PG2436BB36 base with PG2436HH21 Extra Heavy Duty (ANSI Tier 22) 1-piece lid marked "Fiber Optics". Extra Small Handholes must be Quazite PG1730BA24 base with PG1730HH21 Heavy Duty (ANSI Tier 22) 1-piece lid marked "Fiber Optics". Manufacturer substitutions or equals will not be allowed for the handholes and lids.

The handholes must sit parallel with adjacent streets, buildings, or other structures and must be flush with all surrounding surfaces, and if installed on a slope or grade the handhole must follow the contour of the grade as much as possible.

The installed handholes must sit atop a 12" bed of ¾" washed, crushed stone for drainage - pea gravel or other stone smaller than ¾" is not an acceptable base for drainage. All fill around the Handhole must be mechanically compacted in 12" layers to within 8" from the top to prevent settling.

Inside each new handhole the Contractor will be required to install a single 5' long by 1/2" diameter copper clad ground rod. The ground rod must not protrude more than 3" above the surface of the crushed stone bed. After ground rod installation, the Contractor must equip the top with a conductor clamp that will allow the Contractor to tie a #12 AWG UL TYPE USE 2/RHH/RHW-2 Outdoor rated PVC jacketed stranded copper locate wire to the end.

Detail Drawing of Handhole and Locate Station Installation



Placement Notes:

T2.03 Locate Wire and Post/Station Placement Guidelines

All locate wires will be installed outside the duct. A suitable locate wire for this purpose is identified within the Contractor-provided materials list in Section 6.01.

The Contractor will be required to install flush mount locate stations or above grade locate posts adjacent to handholes identified on the CAD Drawings. The locate stations and posts will be used to access the locate wires for future locating purposes.

Between the handhole and locate station or post the contractor must install a short length of 1-1/4" underground plowduct. This will facilitate the installation of the locate wires into the post from the handhole.

At no time will a locate station or post be installed in a location where it impedes or can be damaged by the removal of the handhole lid.

T2.04 Mule Tape Installation Guidelines

The Contractor will be required to install a single 1,800 lb mule tape within the plowduct during the installation of the fiber optic cable.

T2.05 Fiber Optic Cable Installation Guidelines

The Contractor can install the fiber optic cable by hand or with the use of pneumatic/hydraulic installation equipment. However the means of installation, the Contractor must take care to not exceed the cable's maximum pulling tension (typically 600lbs). The Contractor must utilize a breakaway/swivel device at all times while installing the fiber optic cables. Multiple swivels must be used; one for the cable, and another set 8" back from the first for the mule tape.

At each handhole the Contractor must store a minimum of 150 feet of cable slack (unless otherwise noted on the CAD Plans) neatly coiled and stored upright in the handhole and labeled at each end with a permanent label, identifying the Cable's owner and identifying the specific cable strand count. Suitable labels for this purpose are Panduit #PST-FO.

Following cable installation all occupied ducts must be plugged using a split plug appropriately sized to accommodate the cable diameter - do not use foam, putty, or tape to plug any duct. All spare ducts must be sealed using properly sized duct plugs.

Instances where multiple ducts are being placed, all cables and mule tape will be installed inside one duct, while the other duct will only contain mule tape for future installations.

T2.06 Fiber Optic Cable Installation Guidelines (Occupied Duct)

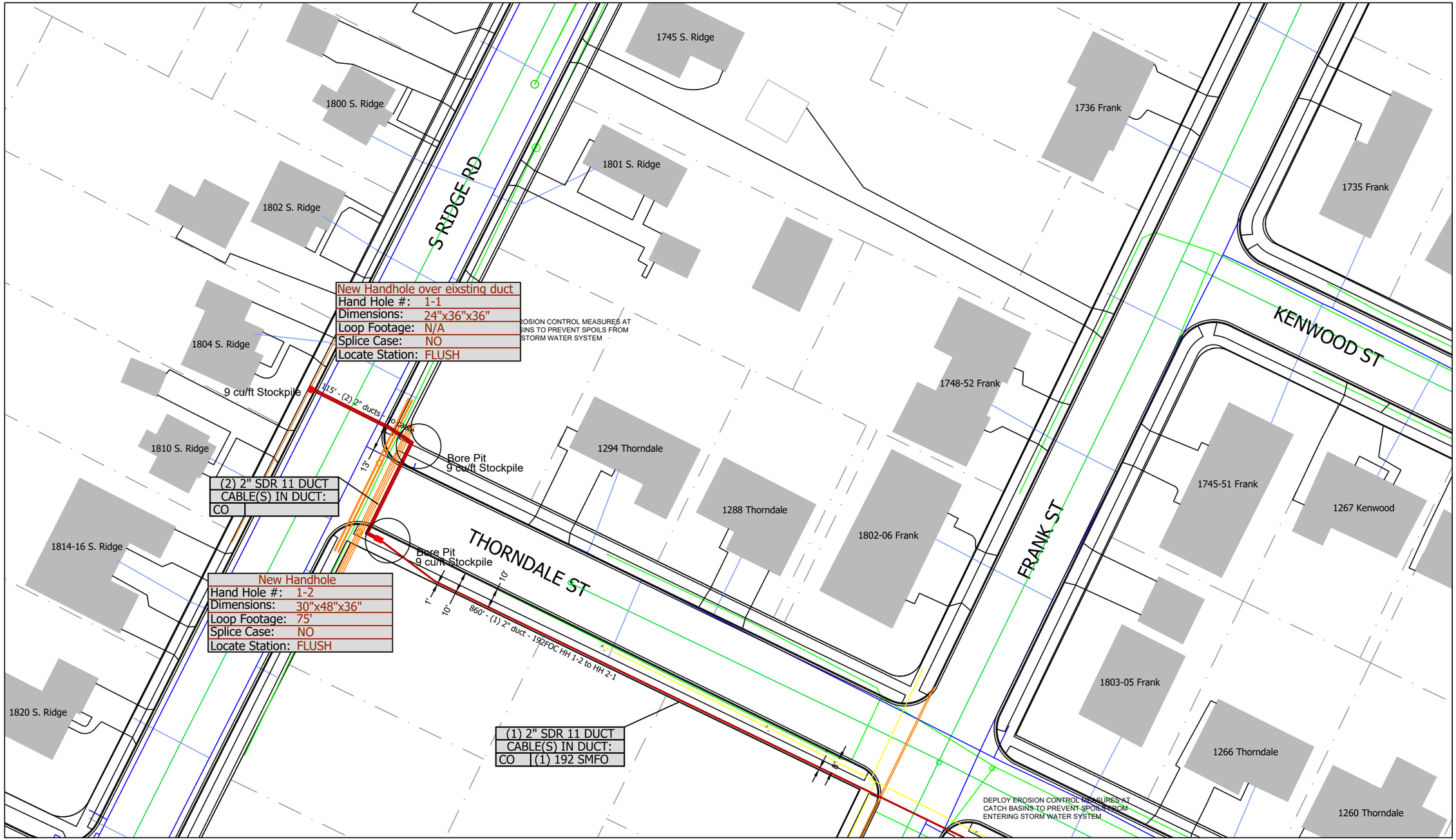
In addition to the above guidelines, these guidelines pertain to placement of a new cable within existing occupied duct as shown on Plans N01, N02, and S01 through S04.

When placing the new cable within the existing duct the contractor will be asked to remove the existing locate wire and replace it while installing the new cable. The existing locate wire has previously impeded the ability to install a second cable in the occupied duct. Please include the locate wire with your Pull Through Duct pricing.

The County will deliver the 432 strand cable reels to the selected contractor's shop prior to installation. The contractor will be required to pre acceptance test the new cable reels upon delivery and provide the results to the County Representative MCE 2 days prior to installation.

T2.07 Underground Installation Documentation

The Contractor will be required to provide bore logs showing rod placement dates and depths as well as redline drawings showing cable placement and cable footage sequential markings within the underground duct and interior piping.



See Sheet 02

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0 50' 100' N

Scale: 1" = 50' ANSI B/Tabloid

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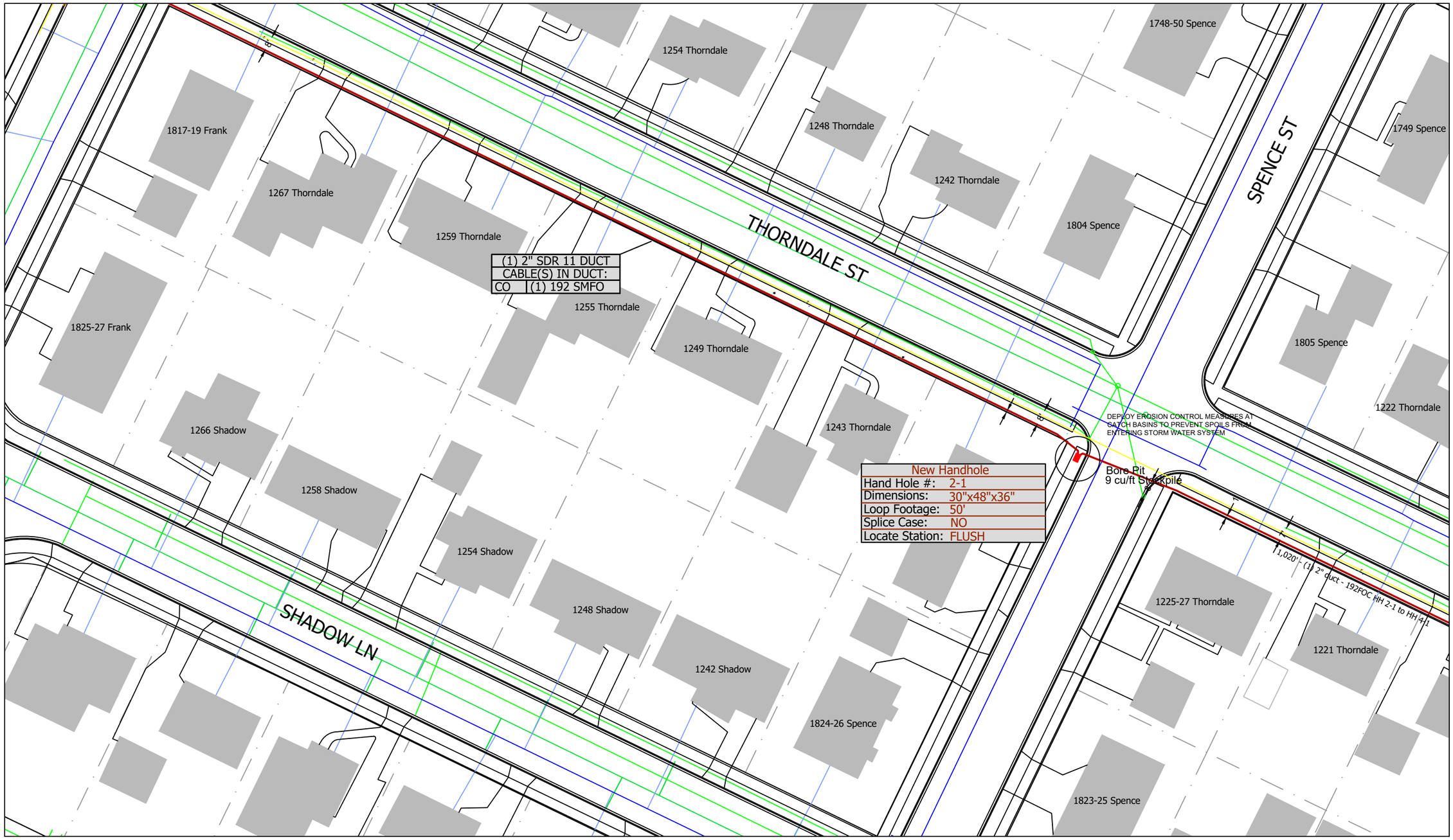
Sheet Group: 1:50 Scaled Plans

Sheet ID: 01

Permits required on this sheet: City of Green Bay Excavation/Obstruction

See Sheet 01



See Sheet 03

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Sheet Group: 1:50 Scaled Plans

Sheet ID: 02

Permits required on this sheet: City of Green Bay Excavation/Obstruction

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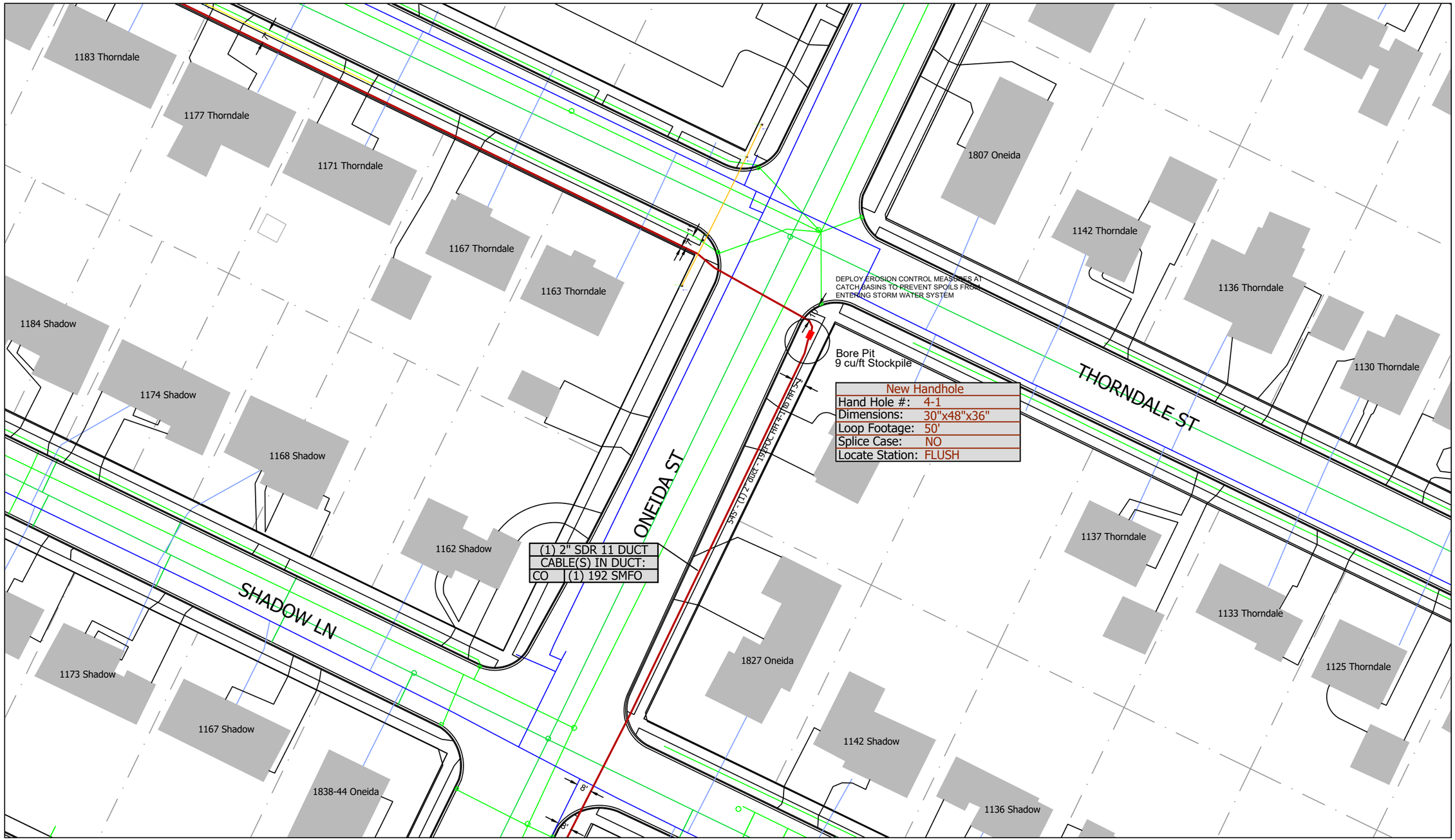
Permits required on this sheet: City of Green Bay Excavation/Obstruction

See Sheet 03



See Sheet 05

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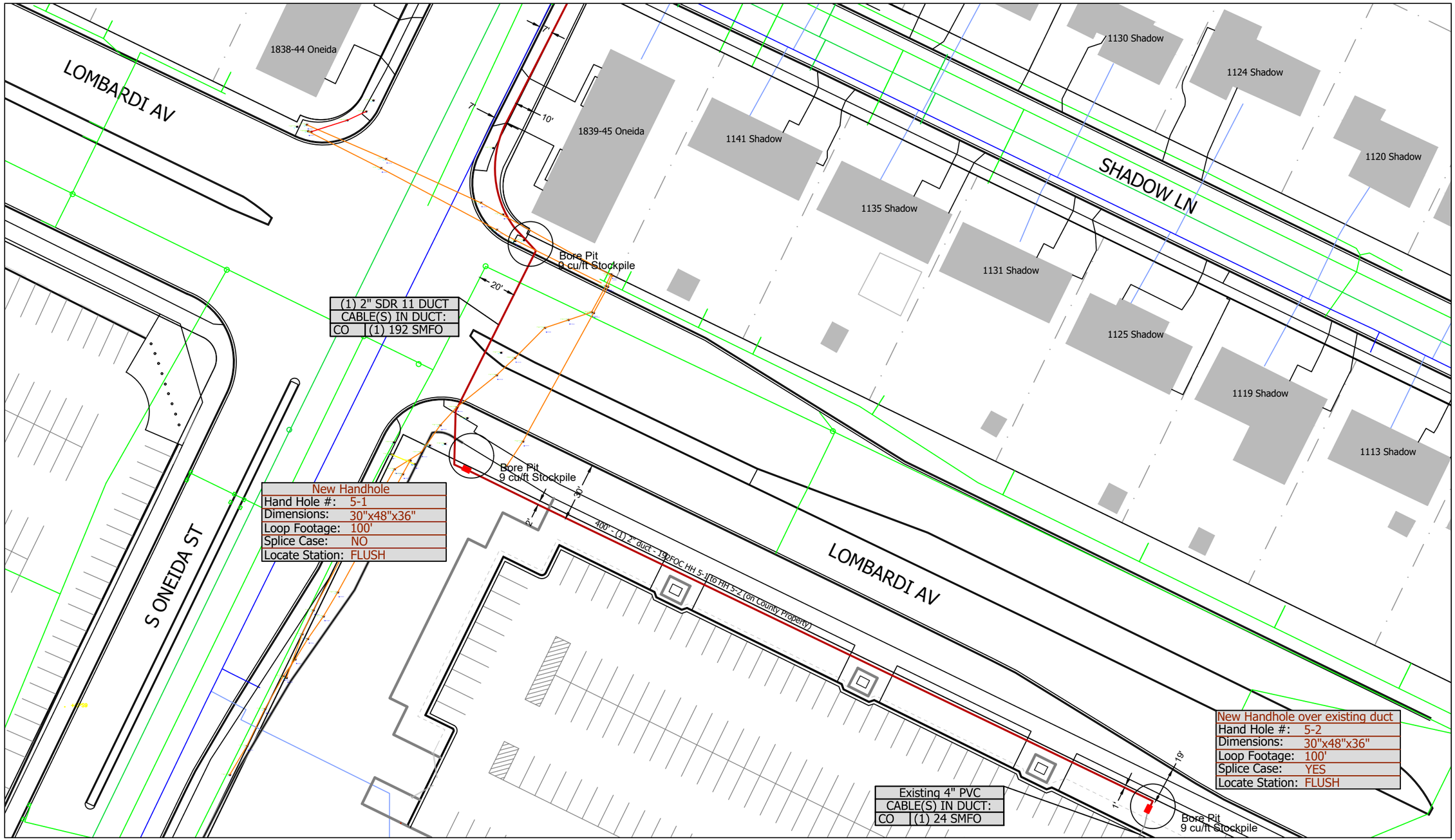
Sheet Group: 1:50 Scaled Plans

Sheet ID: 04

Permits required on this sheet: City of Green Bay Excavation/Obstruction

See Sheet 04



See Sheet 06

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Sheet Group: 1:50 Scaled Plans

Sheet ID: 05

Permits required on this sheet: City of Green Bay Excavation/Obstruction - Village of Ashwaubenon TBD - Brown County Highway Crossing

See Sheet 05

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Existing 4" PVC CABLE(S) IN DUCT:	
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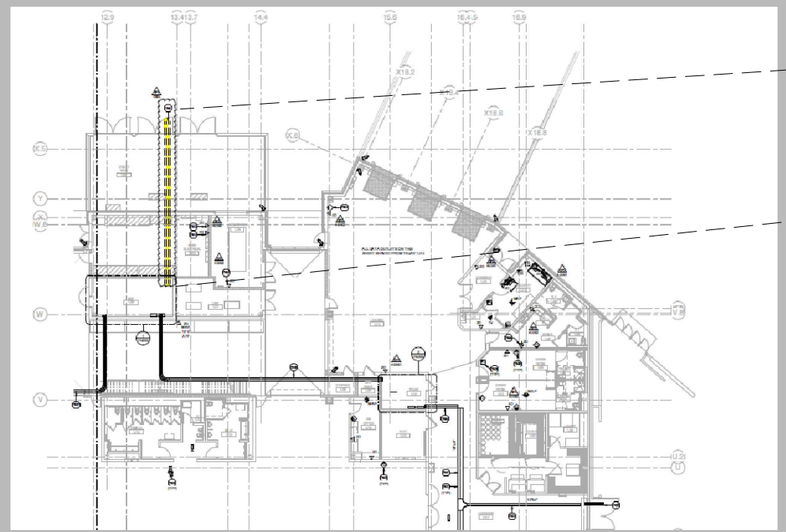

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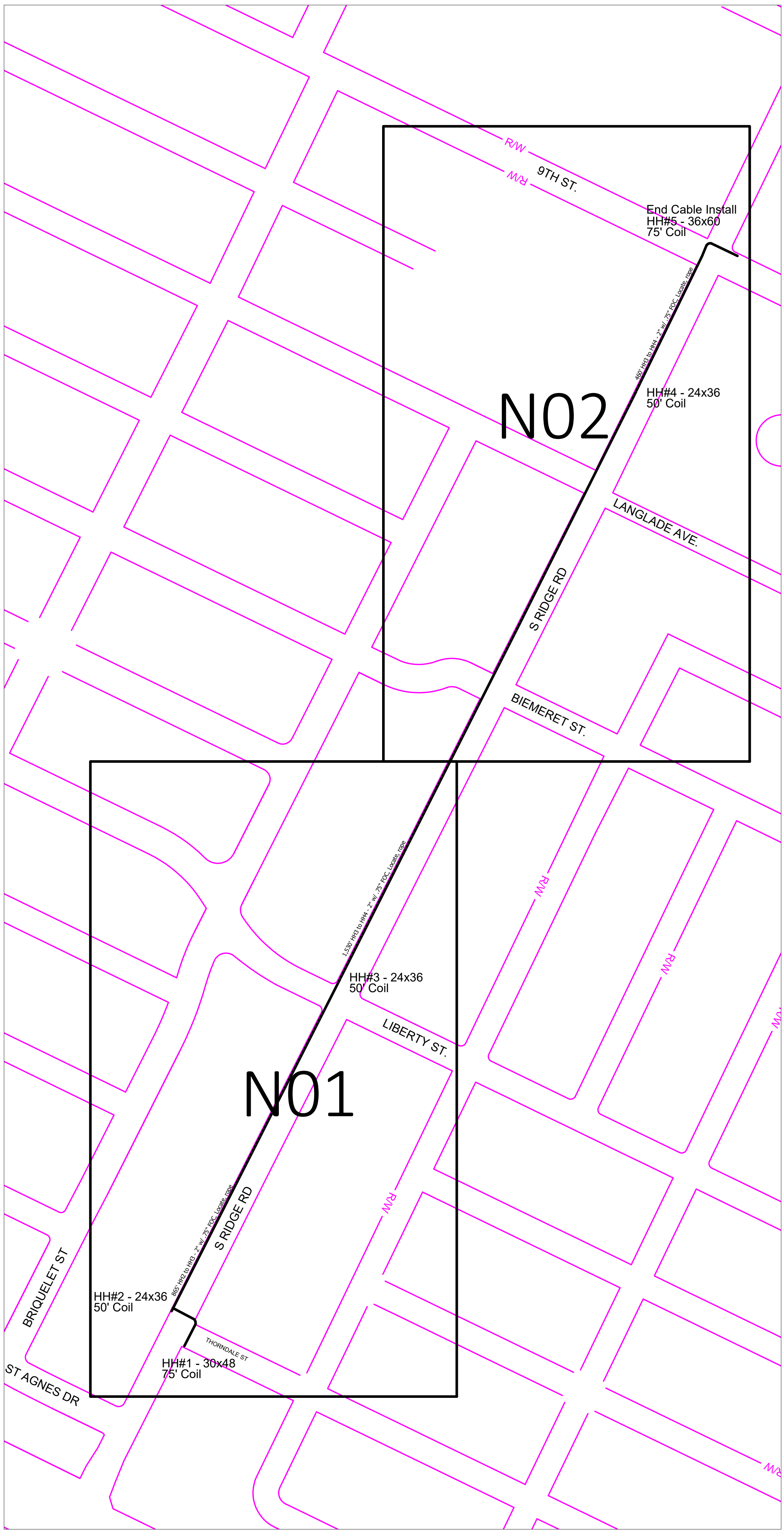
Sheet Group: 1:50 Scaled Plans

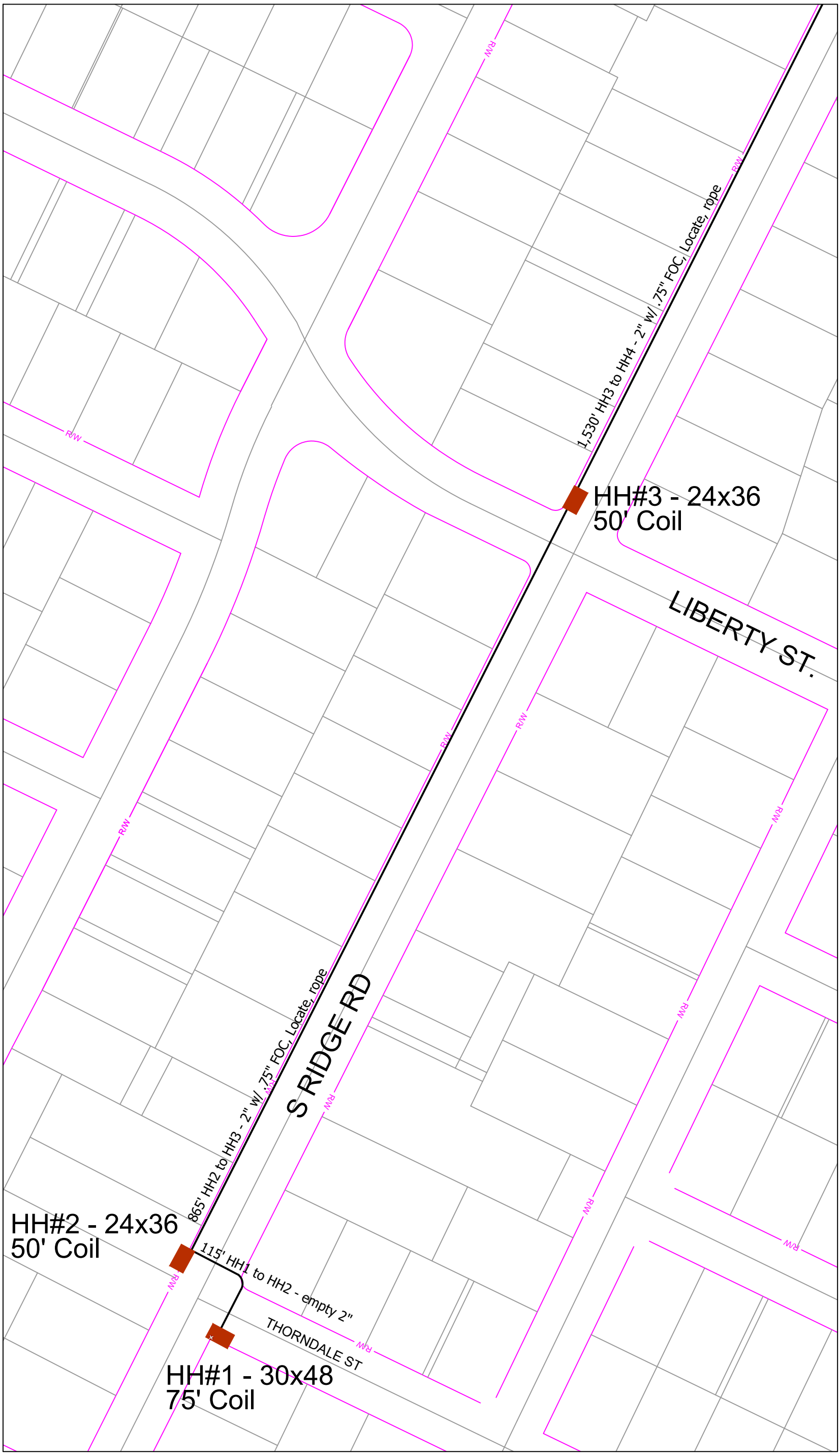
Sheet ID: 06

Permits required on this sheet: City of Green Bay Excavation/Obstruction

BCCAN - 2020 Convention Center Fiber Project #2368
North Pull Through Duct Route Plans



See N02



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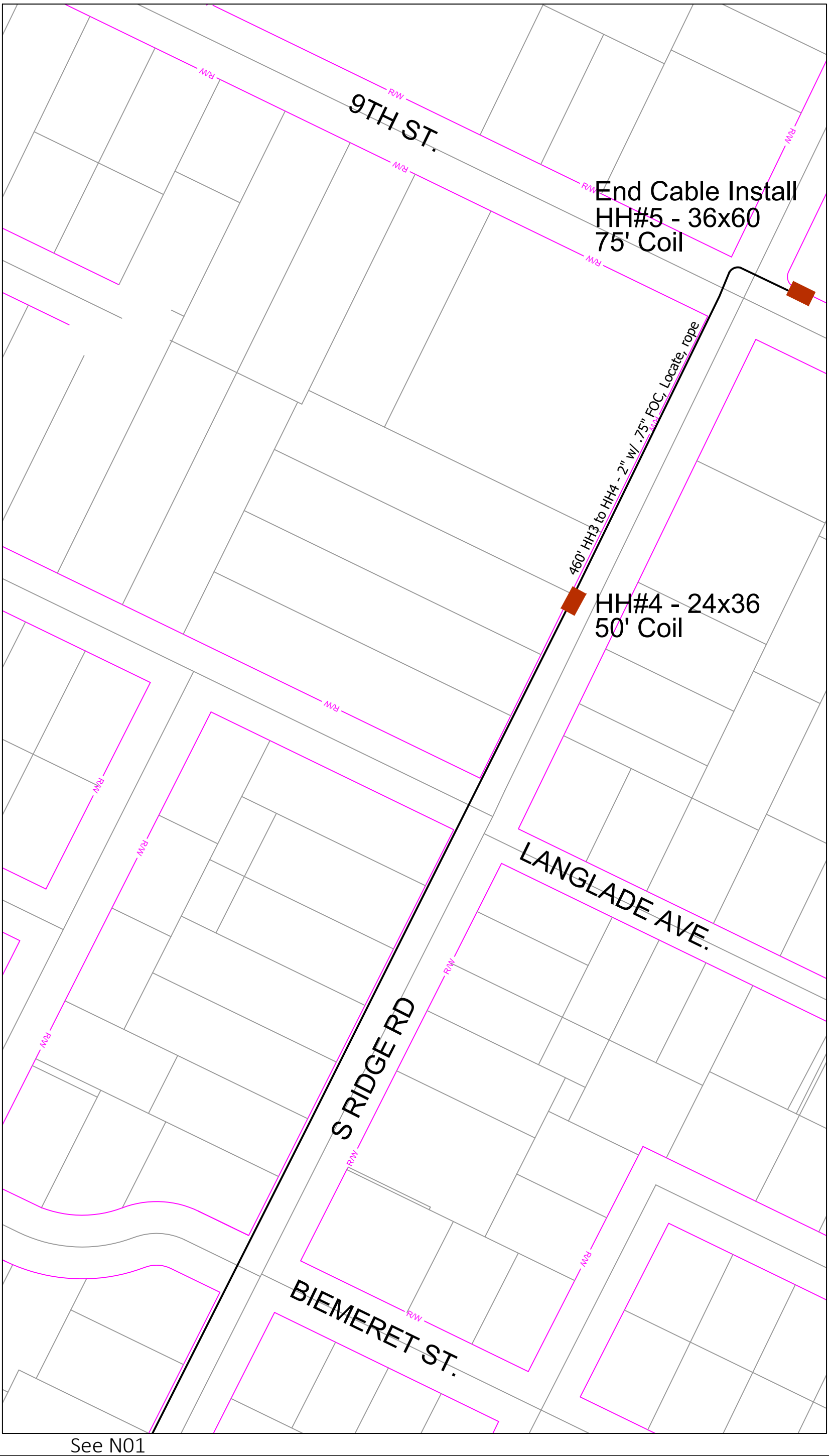
Sheet Group: North Pull Through Duct

Sheet ID: PTD N01



See N01

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Sheet Group: North Pull Through Duct

Sheet ID: PTD N02

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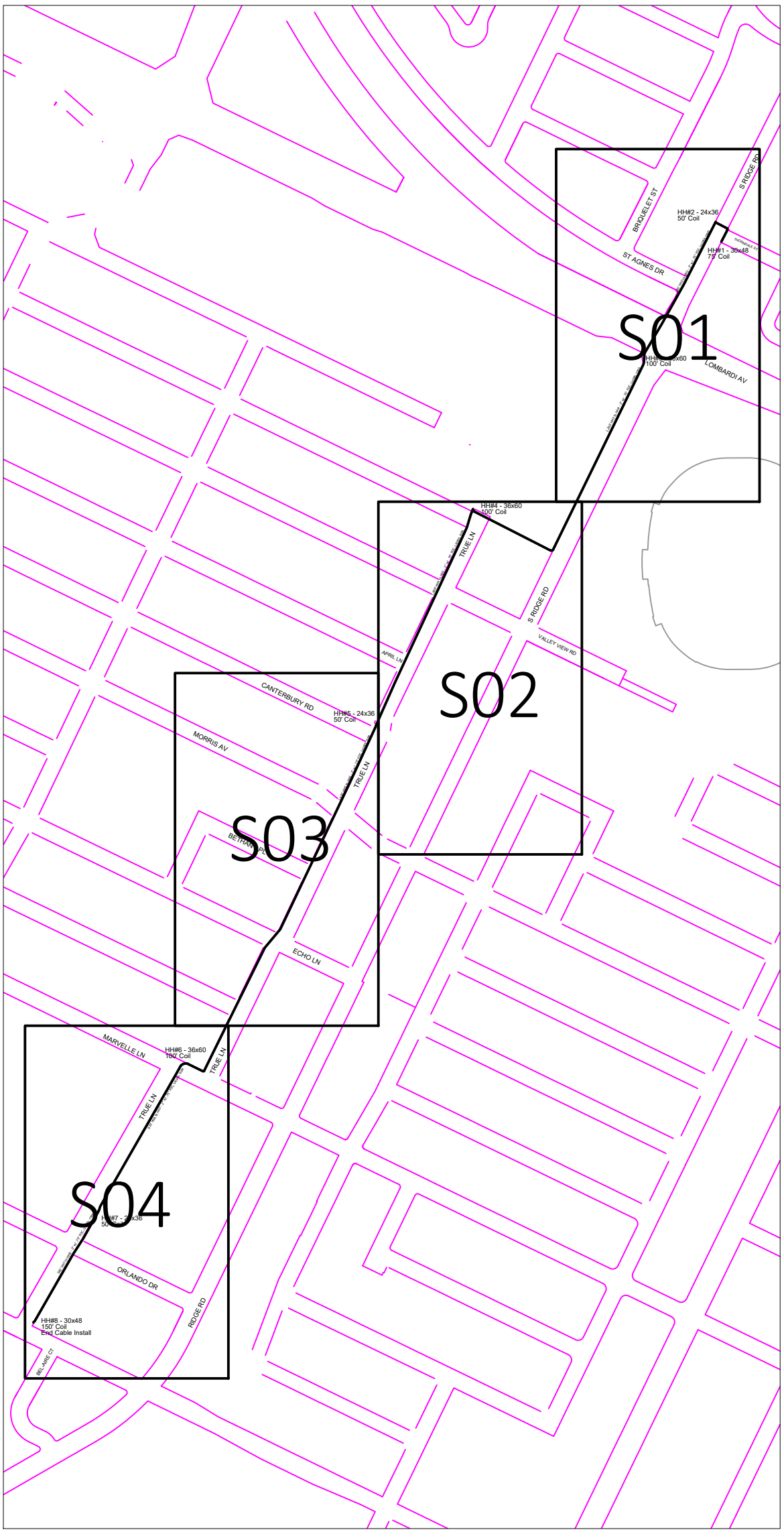
South Pull Through Duct Route Plans



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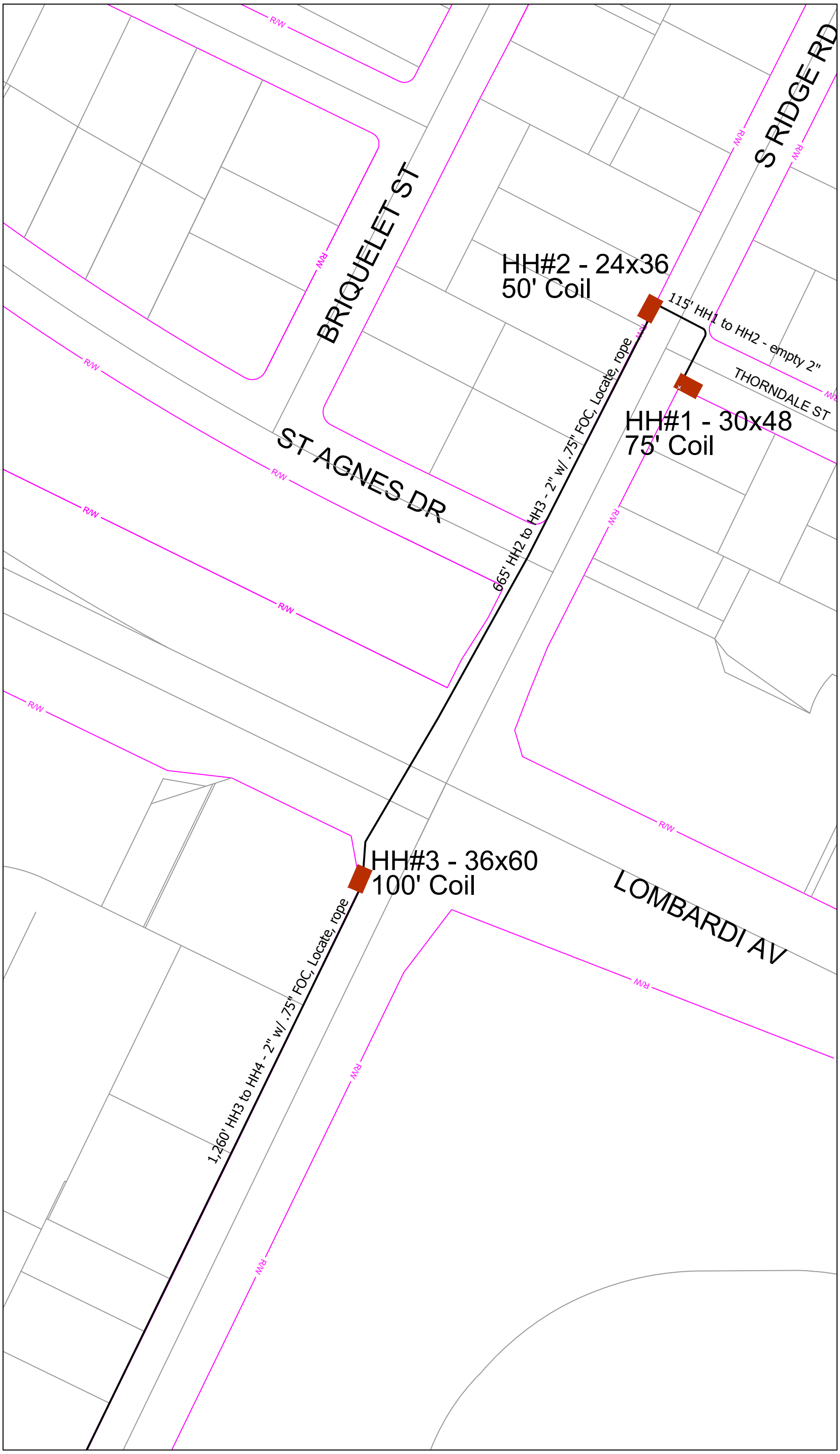
Sheet Group: South Pull Through Duct

Sheet ID: PTD South



See S02

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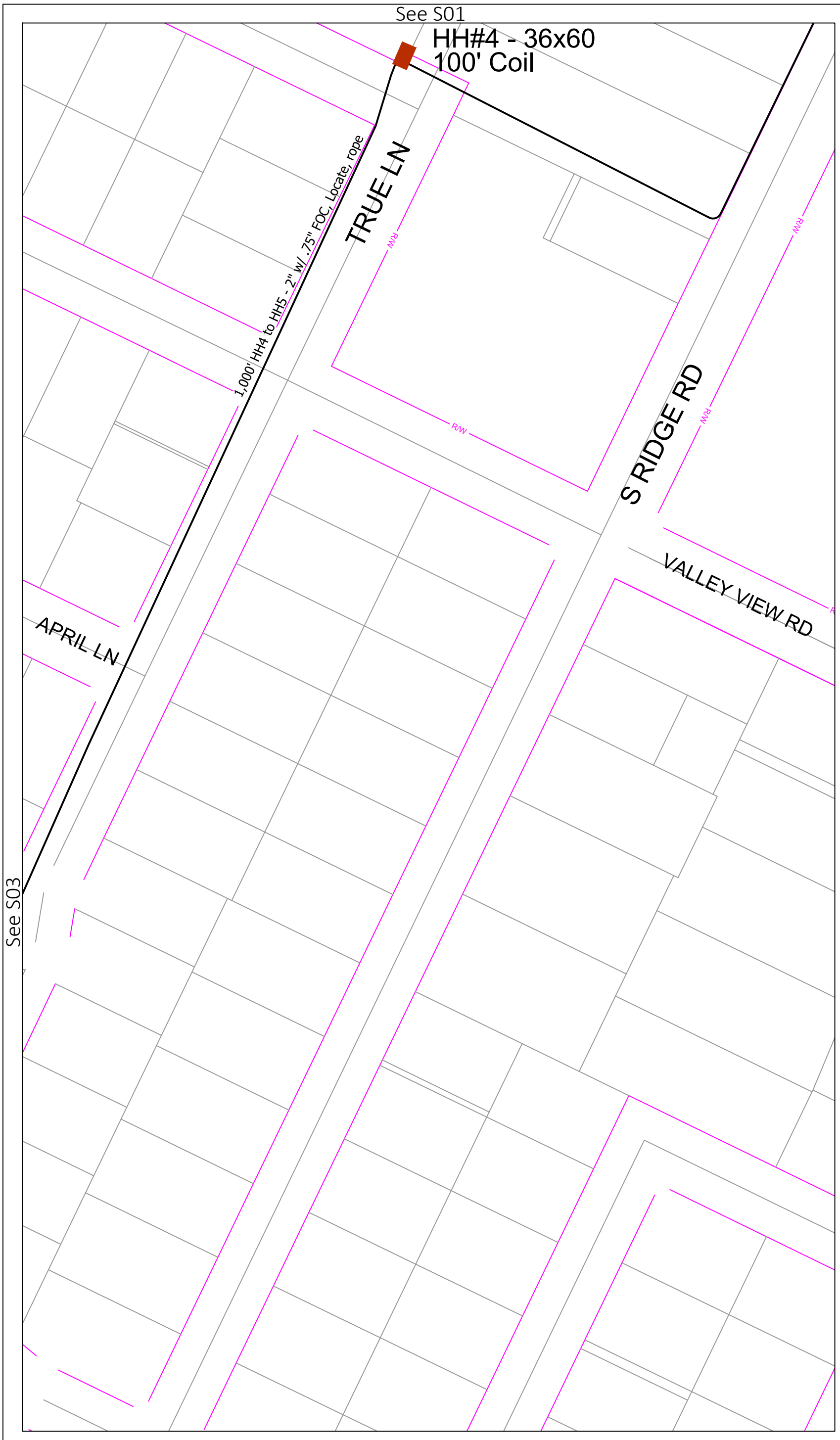
P: 920.393.3492 I 877.870.6968

Sheet Group: South Pull Through Duct

Sheet ID: PTD S01

See S01



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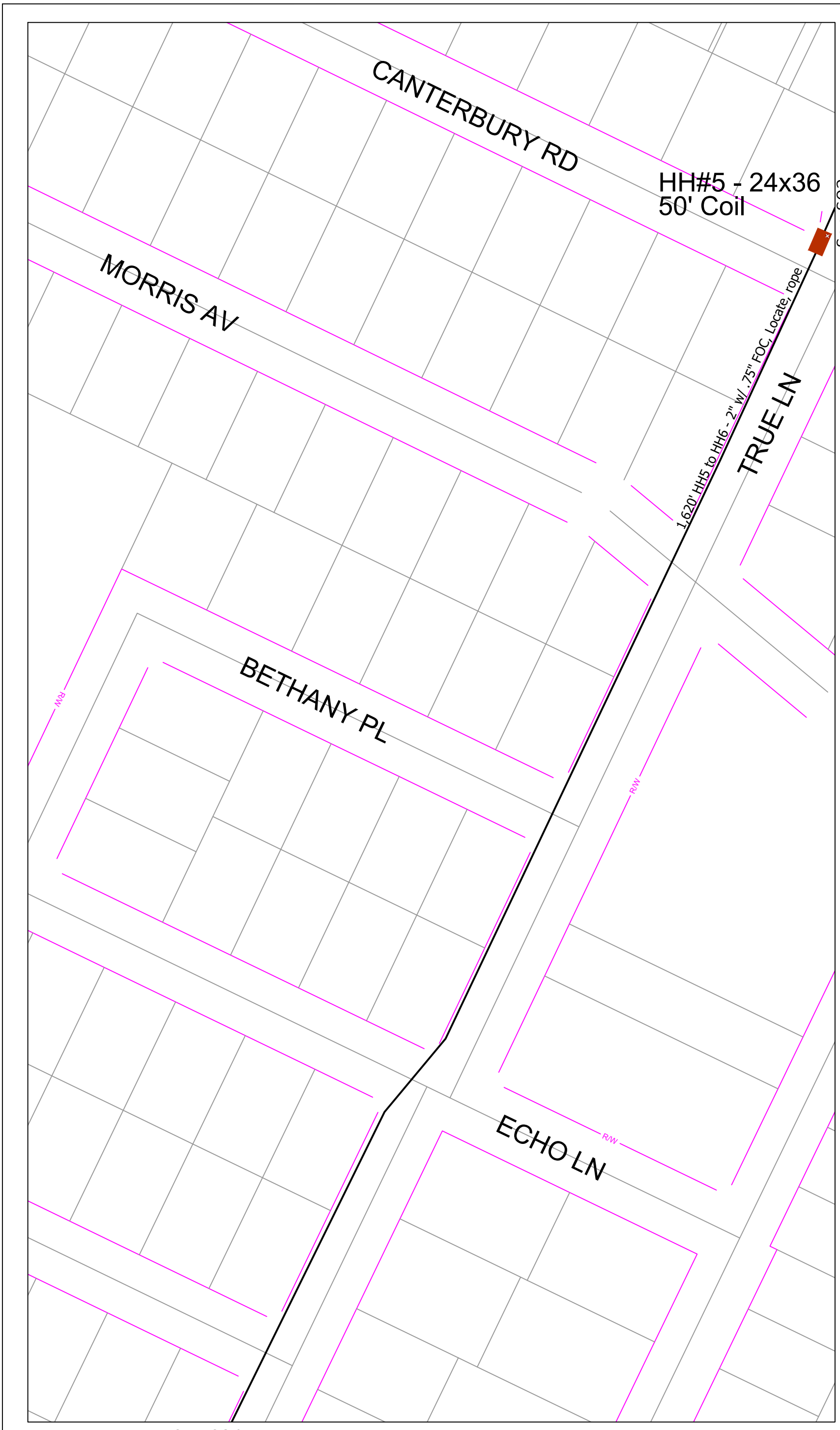
Sheet Group: South Pull Through Duct

Sheet ID: PTD S02



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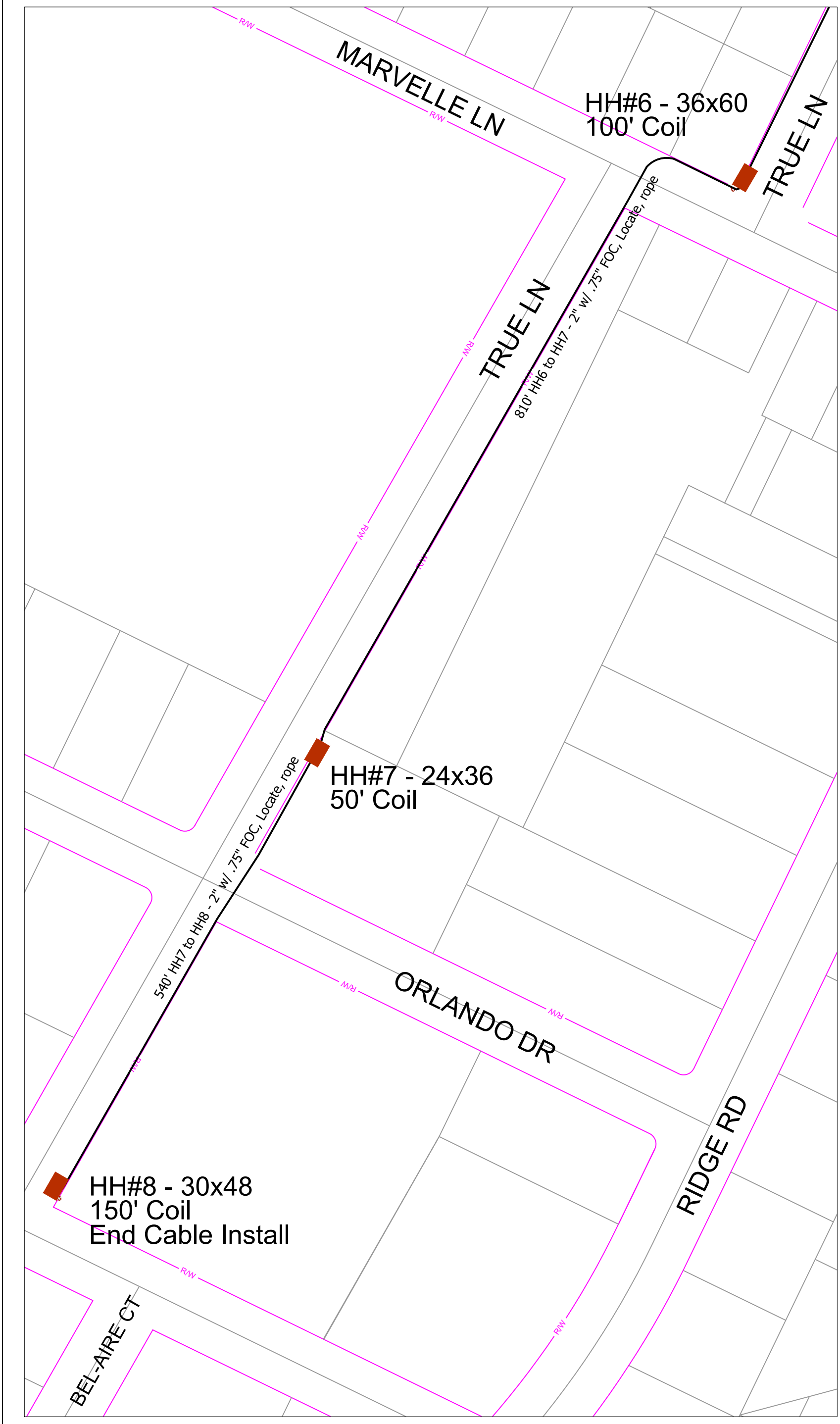
Sheet Group: South Pull Through Duct

Sheet ID: PTD S03

See S03



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Sheet Group: South Pull Through Duct

Sheet ID: PTD S04